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Measurement of Neutral Cascade Production from Negative-Kaon-Hydrogen at 1.8 GeV/c, $K^-p \rightarrow K^0 \Xi^0$

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The reaction $K^-p \rightarrow K^0 \Xi^0$ was investigated in a counter-spark-chamber experiment carried out at the Bevatron. The c.m. angular distribution was obtained from a sample of 59 events for an incident meson momentum of 1.8 GeV/c. A Legendre-polynomial fit to the data yielded the coefficients $B_0=1.00\pm0.27$, $B_1=0.45\pm0.42$, $B_2=1.08\pm0.47$, $B_3=-1.20\pm0.62$ for an expression of the form $d\sigma/d\Omega = (\sigma/4\pi) \sum_{l=1}^4 [B_l P_l(\cos\theta)]$, where σ =total cross section, and θ =c.m. production angle of the K^0 , $P_l(\cos\theta)$ = l th Legendre polynomial. The χ^2 for this three-degree-of-freedom fit was 3.00.

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